

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for genetic transformation of tomato or melon, said method comprising the steps of:

- (a) preparing a silicon carbide fibers solution;
- (b) preparing a pollen germination medium;
- (c) preparing a DNA solution;

(d) mixing said silicon carbide fiber solution with said pollen germination medium and said DNA solution to form a mixture;

(e) adding fresh pollen into said mixture to form a paste;

(f) vortexing said paste for 30-60 seconds, thereby producing a vortexed paste;

(g) applying said vortexed paste on female reproduction plant parts of melon or tomato plants for pollination; and

(h) ~~selection of~~ selecting transformants.

2. (Previously Presented) The method of Claim 1, wherein the silicon carbide fibers of said silicon carbide

fiber solution used in step (a) are approximately 0.1-20 μm diameter and 1-250 μm length.

3. (Canceled)

4. (Previously Presented) The method of Claim 1, wherein the silicon carbide fiber solution prepared in step (a) comprises a sufficient amount of sterile water or solvent, to make a 5% to 25% aqueous solution.

5. (Canceled)

6. (Previously Presented) The method of Claim 1, wherein said pollen germination medium is a solution containing about 5% - 15% sucrose, 0.01% - 1.0% H_3BO_3 , 0.01% to 1.0% $\text{Ca}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$ at pH 5.6.

7. (Canceled)

8. (Previously Presented) The method of Claim 1, wherein said DNA solution is a solution of plasmid DNA.

9. (Currently Amended) The method of Claim 8, wherein said plasmid DNA is dissolved in a ~~Tris~~ Tris EDTA solution.

10. (Canceled)

11. (Currently Amended) The method of Claim 1, wherein the selection of transformants is performed ~~growing~~ based on the phenotypic expression of a specific cloned selectable marker gene ~~with a phenotypic expression~~, said expression being selected from the group consisting of ~~both an antibiotic resistance gene and a herbicide resistance gene~~, ~~said cloned selectable marker gene selected from the group consisting of an antibiotic resistance gene and a herbicide resistance gene~~ an anthocyanin coloration, and a phenotypic expression of another cloned selectable marker gene.

12. (Previously Presented) The method of Claim 11, wherein said selectable marker gene with a phenotypic expression is a gene regulating anthocyanin levels.

13. (Previously Presented) The method of Claim 11, wherein said selectable marker gene is a gene providing resistance to at least one antibiotic.

14. (Previously Presented) The method of Claim 11, wherein said selectable marker gene is a gene providing resistance to neomycin phosphotransferase.

15. (Previously Presented) The method of Claim 11, wherein said selectable marker gene is a gene providing resistance to kanamycin.

16. (Previously Presented) The method of Claim 11, wherein said selectable marker gene is a gene providing resistance to phosphinothricin acetyltransferase.

Claim 17-30 (Cancelled).

31. (Currently Amended) A method for genetic transformation of maize reproducing sexually, said method comprising the steps of:

- (a) preparing a silicon carbide fiber solution;
- (b) preparing a pollen germination medium;
- (c) preparing a DNA solution;
- (d) mixing said silicon carbide fiber solution with said pollen germination medium and said DNA solution to form a mixture;
- (e) adding fresh pollen into said mixture to form a paste;
- (f) vortexing said paste for 30 to 60 seconds, thereby producing a vortexed paste;
- (g) applying said vortexed paste formed in step (e) (f) on silks for pollination; and
- (h) ~~selection of~~ selecting transformants.

32. (Currently Amended) The method of Claim 31, wherein said silicon carbide ~~fiber solution~~ fibers used in

step (a) are approximately 0.1-20 μm in diameter and 1-250 μm in length.

33. (Previously Presented) The method of Claim 31, wherein the silicon carbide fiber solution prepared in step (a) comprises a sufficient amount of sterile water or solvent, to make a 5% to 25% aqueous solution.

34. (Currently Amended) The method of Claim 31, wherein the pollen germination medium contains about 5% - 15% sucrose, 0.01% - 1.0% H_3BO_3 , 0.01% to 1.0% $\text{Ca}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$ at pH 5.6, ~~and more preferably, about 15% sucrose, 0.018% H_3BO_3 , 0.04% $\text{Ca}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$ at pH 5.6.~~

35. (Previously Presented) The method of Claim 31, wherein said DNA solution is a solution of plasmid DNA.

36. (Previously Presented). The method of Claim 35, wherein said solution of plasmid DNA is dissolved in a Tris EDTA solution.

37. (Currently Amended) The method of Claim 31, wherein the selection of transformants is performed ~~by growing~~ based on the phenotypic expression of a specific cloned selectable marker gene with a phenotypic expression, said expression being selected from the group consisting of ~~both an~~ antibiotic resistance, ~~gene and a herbicide resistance gene,~~

~~said cloned selectable marker gene selected from the group consisting of an antibiotic resistance gene and a herbicide resistance gene~~ an anthocyanin coloration, and a phenotypic expression of another cloned selectable marker gene.

38. (Currently Amended). The method of Claim 37, wherein said selectable marker gene is a gene providing resistance to neomycin phosphotransferase.

39. (Previously Presented) The method of Claim 37, wherein said selectable marker gene is a gene providing resistance to kanamycin.

40. (Currently Amended) The method of Claim 37, wherein said selectable marker gene is ~~gene providing resistance to~~ a gene encoding for phosphinothricin acetyltransferase.

41. (Previously Presented) The method of claim 2, wherein said silicon carbide fibers are between 1-2 μm in diameter and 10-180 μm in length.

42. (Previously Presented) The method of claim 32, wherein said silicon carbide fibers are between 1-2 μm in diameter and 10-180 μm in length.

43. (Previously Presented) The method of claim 6, wherein the pollen germination medium contains about 15% sucrose, 0.018% H_3BO_3 , 0.04% $\text{Ca}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$ at pH 5.6.

44. (Previously Presented) The method of claim 34, wherein the pollen germination medium contains about 15% sucrose, 0.018% H_3BO_3 , 0.04% $\text{Ca}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$ at pH 5.6.

Claims 45-46 (Cancelled).